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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/871,839	06/01/2001	George M. Harris	7586	2825

7590 07/31/2002

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EXAMINER

HARRIS, WESLEY G

ART UNIT

PAPER NUMBER

2817

DATE MAILED: 07/31/2002

Please find below and/or attached an Office communication concerning this application or proceeding.

# Office Action Summary

Application No.

09/871,839

Applicant(s)

HARRIS, GEORGE M.

Examiner

Wesley G. Harris

Art Unit

2817

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --  
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

## Status

- 1) ☐ Responsive to communication(s) filed on \_\_\_\_.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

## Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) \_\_\_\_ is/are withdrawn from consideration.
- 5) ☐ Claim(s) \_\_\_\_ is/are allowed.
- 6) ☒ Claim(s) 1, 4, 6-10, 13, 15-19, 22 and 23 is/are rejected.
- 7) ☒ Claim(s) 2, 3, 5, 11, 12, 14, 20, 21 is/are objected to.
- 8) ☐ Claim(s) \_\_\_\_ are subject to restriction and/or election requirement.

## Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on \_\_\_\_ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.  
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on \_\_\_\_ is: a) ☐ approved b) ☐ disapproved by the Examiner.  
If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. §§ 119 and 120

- 13) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).  
a) ☐ All b) ☐ Some \* c) ☐ None of:  
1. ☐ Certified copies of the priority documents have been received.  
2. ☐ Certified copies of the priority documents have been received in Application No. \_\_\_\_.  
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).  
\* See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).  
a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

## Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-1449) Paper No(s) \_\_\_\_
- 4) ☐ Interview Summary (PTO-413) Paper No(s) \_\_\_\_
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other: \_\_\_\_\_

**DETAILED ACTION**

***Claim Rejections - 35 USC § 102***

**The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:**

**A person shall be entitled to a patent unless –**

**(b) The invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.**

**Claims 1,4,7,13,15,19,22, and 23 are rejected under 35 U.S.C. 102(b) as being anticipated by Zimmerman US Pat No 5656980.**

Zimmerman discloses in Figure 1 a power divider for a waveguide 12 having and input 14 and two outputs 18; the divider comprising an impedance post 30 and located in the waveguide between the input 14 and two outputs 18; with at least one power selective probe or tuner adjuster 26 located in the waveguide 14 between the impedance post 30 and least one of two outputs 18; and an adjustment of tuning adjuster or probe 26 to selectively set power (i.e. signal strength) through the probe 26 to alter the power through its respective output 18; wherein the probe 26 is variably altered by an adjustment as disclosed in column 3 lines 9-15; that adjustment of tuning adjuster or probe being physical movement of the probe 26 disclosed in column 9 lines 36, 37 as recited in claims 1, 4, 5, and 7.

Zimmerman discloses in Figure 1 a power divider for a waveguide 12 having and input 14 and two outputs 18; the divider comprising an impedance post 30 and located in the waveguide between the input 14 and two outputs 18; with a first power selective probe or tuning adjuster 26 located in the waveguide 14 between the impedance post 30 and first output 18; and a second power selective probe or tuning adjuster 26 located in the waveguide 14 between the

Art Unit: 2817

impedance post 30 and second output 18; and an adjustment of tuning adjuster or probe 26 to selectively set power (i.e. signal strength) through the first probe 26 to alter the power (i.e. signal strength) through first output 18; and an adjustment of tuning adjuster or probe 26 to selectively set power through the second probe 26 to alter the power through second output 18; wherein it is inherent that the first and second adjustment means or probes 26 disclosed by Zimmerman would have an inherent area of capacitance between the portions of the probe inserted into the waveguide 14 and the conductive walls of the waveguide. Zimmerman also discloses a pair of inductive members 30 flanking the capacitive probes 26 extending across the lateral cross section located on either side of the probes in the cross section inherently set to the wavelength of the waveguide at the center frequency of the operating bandwidth as recited by applicant in claims 13, 15, and 19.

Zimmerman discloses a method for dividing the power from a waveguide input to at least two outputs Col 2, lines 21-24. Since the Zimmerman reference essentially teaches the same structure of that of the applicant altering the distance between the post and one of the outputs of the Zimmerman reference, which would inherently change the resistance as recited by the applicant in claim 22.

The method of claim 23 results in a structure, which is met by the disclosed structure of Zimmerman.

### *Claim Rejections - 35 USC § 103*

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was

Art Unit: 2817

made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

**Claims 6,8,9,10,16,17, and 18 are rejected under 35 U.S.C. 103(a) as being obvious over Zimmerman.**

Zimmerman discloses the structure of claims 1 and 4 previously disclosed above.

Zimmerman fails to teach the preset physical replacement of the tuning adjuster or probe 26 with another.

It would have been obvious to one with skill in the art at the time of the invention to replace the tuning adjuster or probe 26 with another tuning adjuster or probe adjusted to optimize the exact length needed to achieve the proper bandwidth and desired frequency as claimed in claim 6.

Zimmerman discloses the structure of claim 1 previously disclosed above.

Zimmerman does not disclose a distance between the post 30 and probe 26 within 0.1 of 91% of the wavelength in the waveguide at the center frequency of the operating bandwidth nor that the probe is 91% of the wavelength of the waveguide at the center frequency of the operating bandwidth with an impedance post having a diameter of 4.4% of the wavelength in the waveguide at the center frequency of the operating bandwidth.

It would have been obvious at the time the invention was made to one with skill in the art to position the power selective probe of Zimmerman with a predetermined length and within a predetermined distance with impedance post of a predetermined diameter as a means for achieving optimization of the invention.

Accordingly such a modification would have achieved an optimal frequency at the operating bandwidth transferred through the output as claimed in claim 8,9,10,16, and 17.

Art Unit: 2817

Zimmerman discloses the structure of claim 1 and claim 13 previously disclosed above.

Zimmerman does not disclose that at least one of the tuning adjusters or probes 26 is located at least 1.5 wavelength in the waveguide within 0.1% of the center frequency of the operating bandwidth from any component located along the longitudinal axis of the waveguide.

It would have been obvious at the time the invention was made to one with skill in the art to position the power selective probe of Zimmerman with a predetermined length and within a predetermined distance with impedance post of a predetermined diameter as a means for achieving optimization of the invention.

Accordingly such a modification would have achieved an optimal frequency at the operating bandwidth transferred through the output as claimed in claim 18.

*Allowable Subject Matter*

Claims 2,3,5,11,12,14, 20,21 are objected to as being dependent upon a rejected base claim, but would be allowable if rewritten in independent form including all of the limitations of the base claim and any intervening claims.


Any inquiry concerning this communication or earlier communications from the examiner should be directed to Wesley G. Harris whose telephone number is (703) 305-4008. The examiner can normally be reached on 8 am to 5 pm est.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert J. Pascal can be reached on (703) 308-4909. The fax phone numbers for the organization where this application or proceeding is assigned are (703) 872-9318 for regular communications and (703) 872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is (703) 308-0956.

Wesley G. Harris  
Examiner  
Art Unit 2817

WH  
July 26, 2002

  
BENNY T. LEE  
PRIMARY EXAMINER  
ART UNIT 2817